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**MAY 1993 ANNUAL
GROUND WATER SAMPLING RESULTS
LIVINGSTON RAIL YARD
LIVINGSTON, MONTANA**

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Submitted to:

**Montana Department of Health and
Environmental Sciences**
Solid and Hazardous Waste Bureau
Cogswell Building
Helena, Montana 59620

Submitted by:

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Submittal Date:

October 20, 1993

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1.0 INTRODUCTION

This report presents the results of ground water samples collected during the second quarter of 1993 at the Livingston Rail Yard, in Livingston, Montana. Ground water sampling for this quarter consisted of the May annual sampling event. Burlington Northern Railroad's revised Ground Water Sampling Plan, instituted in July 1992, does not require ground water sampling during April or June.

2.0 RESULTS

All ground water samples were analyzed by Energy Laboratories, Inc. in Billings, Montana. Results for the May 1993 annual sampling event are presented below.

2.1 May 1993 Annual Ground-Water Sampling Event

The May 1993 annual sampling event was conducted May 24 through May 27, 1993. Forty-two samples were analyzed as part of this event: 35 were primary samples collected at monitoring wells within and around the Livingston Rail Yard, four samples were field duplicates, two samples were trip blanks, and one sample was a method blank. The locations of all sample points are shown on Figure 1.0. All samples were analyzed for purgeable halocarbons by EPA Method 601 with the exception of samples collected from Monitor Wells LS-6, LS-11, L-87-2, L-87-4, L-87-7, L-87-8, L-88-10, and the B-Street well. These samples were analyzed by EPA Method 524.2. Tables 1, 2, 3, and 4 summarize quarterly analytical results for tetrachloroethene (PCE); trichloroethene (TCE); cis-1,2-dichloroethene (DCE); and chlorobenzene, respectively. Laboratory analytical results and a data validation report for this sampling event are in Appendix A.



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Monitoring Well LS-8 was abandoned during sludge removal activities located at the API overflow pond in October 1992. Therefore, this well could not be sampled. All other wells scheduled for sampling during this event were sampled.

Ground water samples collected during the May 1993 annual sampling event contained dissolved chlorinated-VOC concentrations that continued the decline observed during the past four years. In most parts of the plume the rate of decline has increased over the past year. Figure 2.0 shows the PCE plume based on May 1993 results. The 100 ppb PCE contour of the May 1993 results is much more restricted than that shown for the average PCE concentration between May 1989 and May 1992 in the Draft Final Remedial Investigation Report. Individual sample results showing notable changes from previous sample results are discussed below.

The sample collected from Monitoring Well 89-9 contained a PCE concentration of only 41 ppb. As shown on Figure 3.0 this is approximately one-third the February 1993 concentration and continues the rapid concentration decline due to the removal of chlorinated-VOC sources in the shop area by soil vapor extraction (SVE).

The sample collected from Monitoring Well L-87-5, located immediately east of the shop complex, contained a PCE concentration of only 70 ppb. This is the lowest PCE concentration measured at this well and illustrates the rapid concentration decline at this well, as shown in Figure 4.0.

As described in the Draft Final Remedial Investigation Report, ground water at Monitor Wells L-87-2 and L-88-10 are primarily impacted by a cis-1,2 dichloroethene (cis-1,2 DCE) source in the Waste Water Treatment Plant area. Burlington Northern's containment, and later removal, of sludges from the

WWTP sump, WWTP grit chambers, and In-line grit chamber along with the implementation of SVE at all of these locations has caused cis-1,2 DCE concentration declines in these two downgradient wells as discussed below.

The May 1993 cis-1,2 DCE concentration in the sample collected from Monitor Well L-87-2 was 100 ppb, the lowest concentration yet recorded at this well. Figure 5.0 shows the cis-1,2 DCE concentration decline at this well since May 1989. Similarly, the May 1993 cis-1,2 DCE concentration at Monitor Well L-88-10 was only 57 ppb. This is approximately 50 percent lower than the average concentration recorded during the previous three sampling quarters and is less than the 70 ppb Maximum Contaminant Level (MCL) for cis-1,2 DCE. Figure 6.0 shows the cis-1,2 DCE concentration decline at this well since May 1989.

Cis-1,2-DCE from the WWTP area is also detected in ground water sampled from Monitor Well LS-11. With the progressive removal of cis-1,2-DCE from the WWTP sources, cis-1,2-DCE concentrations have declined in Well LS-11 in a manner similar to Wells L-87-2 and L-88-10. Figure 7.0 shows a gradual cis-1,2-DCE concentration decline between May 1989 and May 1992 and then a much sharper decline between May 1992 and May 1993. This reflects the implementation of source removal at the WWTP area in early 1992.

The PCE concentration in the sample collected from Monitor Well 92-1 was 470 ppb. Although this is lower than the May 1992 concentration of 520 ppb, it is higher than the August 1992 through February 1993 sample results. See Table 1.0. PCE in the ground water at this well is suspected to be from the Locomotive Shop manways source where vapor extraction is now operating. Vapor extraction has removed approximately 160 pounds of PCE and trichloroethene from this area to date. The May 1993 ground water sample results may be related to the abnormally rapid rise in the water table during

May 1993. Vapor extraction continues to operate at the Locomotive Shop manways. Future ground water samples will evaluate the effectiveness of this source control activity.

2.2 Free-Product Thickness Measurements

Free-product thicknesses were measured in monitor and observation wells located within the free-product plume during the second quarter 1993. Figure 8.0 shows the free-product thickness contours for this period. Free product thicknesses in all wells were less than during the first quarter of 1993. This is probably due to the rapid rise in the water-table during spring 1993.

As shown on Figure 8.0, very little free product remains in the area around the WWTP where chlorinated ethenes are present in the product. In addition, very little product is present in the observation wells around the Pilot-Scale Hydrocarbon Recovery System. These areas also contained very little free product during winter 1993 when product thicknesses are expected to be greatest due to low water table elevations. Recovery tests during 1990 and 1991 removed only about 3,000 gallons of product from this part of the plume. The relative lack of free product now present in this area reveals the inconsistency between the estimated volume of free product, based on apparent product thicknesses measured between 1989 through 1991, and the volume of recoverable free product, based on the results of recovery tests and thickness measurements after recovery tests. It appears that there is much less free product in the plume than most estimation methods would conclude.

Table 1. Total suspended solids (TSS) and total dissolved solids (TDS) in the water of the
 12 water sampling stations in the San Juan River, Colorado, 1992-1993.

Sampling Site	TSS (mg/L)		TDS (mg/L)	
	1992 August	1993 August	1992 August	1993 August
1	100	100	100	100
2	100	100	100	100
3	100	100	100	100
4	100	100	100	100
5	100	100	100	100
6	100	100	100	100
7	100	100	100	100
8	100	100	100	100
9	100	100	100	100
10	100	100	100	100
11	100	100	100	100
12	100	100	100	100
13	100	100	100	100
14	100	100	100	100
15	100	100	100	100
16	100	100	100	100
17	100	100	100	100
18	100	100	100	100
19	100	100	100	100
20	100	100	100	100
21	100	100	100	100
22	100	100	100	100
23	100	100	100	100
24	100	100	100	100
25	100	100	100	100
26	100	100	100	100
27	100	100	100	100
28	100	100	100	100
29	100	100	100	100
30	100	100	100	100
31	100	100	100	100
32	100	100	100	100
33	100	100	100	100
34	100	100	100	100
35	100	100	100	100
36	100	100	100	100
37	100	100	100	100
38	100	100	100	100
39	100	100	100	100
40	100	100	100	100
41	100	100	100	100
42	100	100	100	100
43	100	100	100	100
44	100	100	100	100
45	100	100	100	100
46	100	100	100	100
47	100	100	100	100
48	100	100	100	100
49	100	100	100	100
50	100	100	100	100
51	100	100	100	100
52	100	100	100	100
53	100	100	100	100
54	100	100	100	100
55	100	100	100	100
56	100	100	100	100
57	100	100	100	100
58	100	100	100	100
59	100	100	100	100
60	100	100	100	100
61	100	100	100	100
62	100	100	100	100
63	100	100	100	100
64	100	100	100	100
65	100	100	100	100
66	100	100	100	100
67	100	100	100	100
68	100	100	100	100
69	100	100	100	100
70	100	100	100	100
71	100	100	100	100
72	100	100	100	100
73	100	100	100	100
74	100	100	100	100
75	100	100	100	100
76	100	100	100	100
77	100	100	100	100
78	100	100	100	100
79	100	100	100	100
80	100	100	100	100
81	100	100	100	100
82	100	100	100	100
83	100	100	100	100
84	100	100	100	100
85	100	100	100	100
86	100	100	100	100
87	100	100	100	100
88	100	100	100	100
89	100	100	100	100
90	100	100	100	100
91	100	100	100	100
92	100	100	100	100
93	100	100	100	100
94	100	100	100	100
95	100	100	100	100
96	100	100	100	100
97	100	100	100	100
98	100	100	100	100
99	100	100	100	100
100	100	100	100	100

TABLES

Table 1: Tetrachloroethene Analytical Results for Ground-Water Samples Collected During Quarterly Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: <i>Tetrachloroethene</i>		Units: <i>ug/L</i>		
Monitoring Well	1992 August Quarterly	1992 November Quarterly	1993 February Quarterly	1993 May Annual
1	-	1.0 B	-	0.66 B
2	-	0.7 B	-	0.74 B
3	-	-	-	0.69 B
4	-	-	-	< 0.5 B
5	< 0.5 B	< 0.5 B	-	0.5 B
6	-	2.0 B	-	3.5 B
7	-	-	-	8.9 B
8	-	-	-	70.0 B
89-1	-	-	-	13.0 B
89-10	-	-	-	73.0 B
89-2	< 0.5 B	< 0.5 B	< 1.0 B	< 0.5 B
89-3	170.0 U	190.0 B	170.0 B	220.0 B
89-4	160.0 B	200.0 B	180.0 B	150.0 B
89-6	-	-	-	21.0 B
89-7	-	-	-	14.0 B
89-9	170.0 B	130.0 B	120.0 B	41.0 B
90-2B	-	-	-	16.0 B
90-3	-	-	-	44.0 B
90-6	0.54 B	0.72 B	< 0.5 B	0.5 B
92-1	220.0 B	160.0 B	200.0 B	470.0 B
92-2	41.0 B	37.0 B	31.0 B	0.81 B
92-3	1.2 B	< 0.5 B	0.54 B	0.51 B
92-4	2.2 B	4.1 B	31.0 B	33.0 B
B-STREET	-	-	-	< 0.5 B
HRO-17	86.0 B	-	-	-
L-87-2	< 0.5 B	10.0 B	1.2 B	0.78 B
L-87-3	80.0 B	110.0 B	140.0 B	88.0 B
L-87-4	-	-	-	< 0.5 B
L-87-5	160.0 B	72.0 B	94.0 B	70.0 B
L-87-7	-	-	-	< 0.5 B
L-87-8	6.2 B	5.8 B	6.7 B	3.5 B
L-88-10	71.0 B	81.0 B	84.0 B	47.0 B
L-88-13	-	-	-	21.0 B
L-88-9	-	-	-	< 0.5 B
LS-11	14.0 B	11.0 B	35.0 B	54.0 B
LS-6	-	-	-	< 0.5 B
LS-8	66.0 B	-	-	-
RAINBOW	-	-	-	11.0 B

Note: Analyte concentrations are listed with assigned data usability validation codes.
Validation Code Definition: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

Table 2: Trichloroethene Analytical Results for Ground-Water Samples Collected During Quarterly Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: **Trichloroethene**

Units: **ug/L**

Monitoring Well	1992 August Quarterly	1992 November Quarterly	1993 February Quarterly	1993 May Annual
1	-	< 0.5 B	-	< 0.5 B
2	-	< 0.5 B	-	< 0.5 B
3	-	-	-	< 0.5 B
4	-	-	-	< 0.5 B
5	< 0.5 B	< 0.5 B	-	< 0.5 B
6	-	< 0.5 B	-	< 0.5 B
7	-	-	-	0.5 B
8	-	-	-	5.0 B
89-1	-	-	-	0.74 B
89-10	-	-	-	6.6 B
89-2	< 0.5 B	< 0.5 B	< 1.0 B	< 0.5 B
89-3	0.9 B	< 0.5 B	0.55 B	0.78 B
89-4	3.2 B	2.9 B	2.2 B	2.0 B
89-6	-	-	-	0.68 B
89-7	-	-	-	4.5 B
89-9	9.1 B	6.3 B	3.0 B	7.6 B
90-2B	-	-	-	4.9 B
90-3	-	-	-	4.2 B
90-6	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
92-1	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
92-2	8.4 B	3.8 B	2.3 B	< 0.5 B
92-3	< 0.5 B	< 0.5 B	< 0.5 B	< 0.5 B
92-4	< 0.5 B	1.1 B	2.1 B	2.9 B
B-STREET	-	-	-	< 0.5 B
HRO-17	16.0 B	-	-	-
L-87-2	7.6 B	11.0 B	18.0 B	19.0 B
L-87-3	9.7 B	11.0 B	12.0 B	11.0 B
L-87-4	-	-	-	< 0.5 B
L-87-5	9.0 B	4.3 B	3.2 B	6.2 B
L-87-7	-	-	-	< 0.5 B
L-87-8	0.93 B	0.94 B	4.4 B	1.5 B
L-88-10	14.0 B	20.0 B	15.0 B	15.0 B
L-88-13	-	-	-	3.3 B
L-88-9	-	-	-	< 0.5 B
LS-11	14.0 B	12.0 B	9.0 B	9.0 B
LS-6	-	-	-	< 0.5 B
LS-8	4.7 B	-	-	-
RAINBOW	-	-	-	1.9 B

Note: Analyte concentrations are listed with assigned data usability validation codes.
Validation Code Definition: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

Table 3: cis-1,2-Dichloroethene Analytical Results for Ground-Water Samples Collected During Quarterly Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: ***cis-1,2-Dichloroethene***

Units: ***ug/L***

<u>Monitoring Well</u>	<u>1992 August Quarterly</u>	<u>1992 November Quarterly</u>	<u>1993 February Quarterly</u>	<u>1993 May Annual</u>
1	-	< 1.0 B	-	< 1.0 B
2	-	< 1.0 B	-	< 1.0 B
3	-	-	-	< 1.0 B
4	-	-	-	< 1.0 B
5	< 1.0 B	< 1.0 B	-	< 1.0 B
6	-	< 1.0 B	-	< 1.0 B
7	-	-	-	1.0 B
8	-	-	-	7.9 B
89-1	-	-	-	1.6 B
89-10	-	-	-	21.0 B
89-2	< 1.0 B	< 1.0 B	< 2.0 B	< 1.0 B
89-3	1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-4	4.6 B	2.6 B	1.6 B	1.2 B
89-6	-	-	-	< 1.0 B
89-7	-	-	-	< 1.0 B
89-9	3.3 B	2.6 B	< 1.0 B	1.8 B
90-2B	-	-	-	13.0 B
90-3	-	-	-	11.0 B
90-6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-1	12.0 B	< 1.0 B	< 1.0 B	3.1 B
92-2	18.0 B	7.0 B	4.2 B	< 1.0 B
92-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
B-STREET	-	-	-	< 1.0 B
HRO-17	9.5 B	-	-	-
L-87-2	310.0 B	430.0 B	190.0 B	100.0 B
L-87-3	17.0 B	15.0 B	34.0 B	30.0 B
L-87-4	-	-	-	< 1.0 B
L-87-5	4.1 B	2.2 B	1.2 B	2.2 B
L-87-7	-	-	-	< 1.0 B
L-87-8	1.0 B	< 1.0 B	3.1 B	< 1.0 B
L-88-10	100.0 B	130.0 B	90.0 B	57.0 B
L-88-13	-	-	-	2.3 B
L-88-9	-	-	-	< 1.0 B
LS-11	54.0 B	43.0 B	29.0 B	25.0 B
LS-6	-	-	-	< 1.0 B
LS-8	12.0 B	-	-	-
RAINBOW	-	-	-	3.0 B

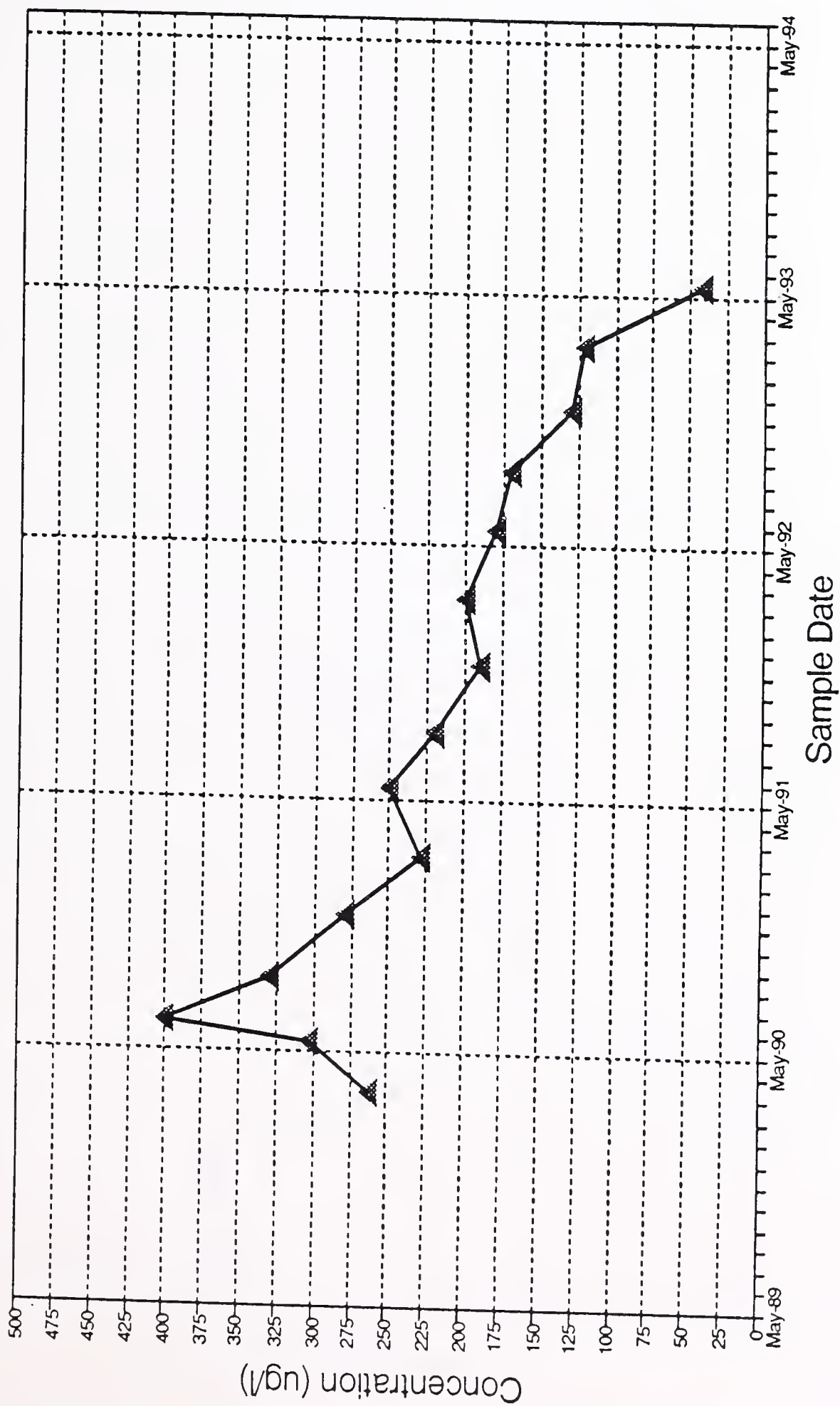
Note: Analyte concentrations are listed with assigned data usability validation codes.
Validation Code Definition: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

Table 4: Chlorobenzene Analytical Results for Ground-Water Samples Collected During Quarterly Sampling Rounds, Livingston Rail Yard, Livingston, Montana.

Chemical Parameter: <i>Chlorobenzene</i>		Units: <i>ug/L</i>		
Monitoring Well	1992 August Quarterly	1992 November Quarterly	1993 February Quarterly	1993 May Annual
1	-	< 1.0 B	-	< 1.0 B
2	-	< 1.0 B	-	< 1.0 B
3	-	-	-	< 1.0 B
4	-	-	-	< 1.0 B
5	< 1.0 B	< 1.0 B	-	< 1.0 B
6	-	< 1.0 B	-	< 1.0 B
7	-	-	-	< 1.0 B
8	-	-	-	< 1.0 B
89-1	-	-	-	< 1.0 B
89-10	-	-	-	< 1.0 B
89-2	< 1.0 B	< 1.0 B	< 2.0 B	< 1.0 B
89-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
89-6	-	-	-	< 1.0 B
89-7	-	-	-	< 1.0 B
89-9	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
90-2B	-	-	-	< 1.0 B
90-3	-	-	-	< 1.0 B
90-6	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-1	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-2	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-3	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
92-4	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
B-STREET	-	-	-	< 1.0 B
HRO-17	840.0 B	-	-	-
L-87-2	77.0 B	66.0 B	55.0 B	44.0 B
L-87-3	1.1 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-4	-	-	-	< 1.0 B
L-87-5	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-87-7	-	-	-	< 1.0 B
L-87-8	< 1.0 B	< 1.0 B	< 1.0 B	< 1.0 B
L-88-10	7.1 B	13.0 B	7.7 B	3.6 B
L-88-13	-	-	-	< 1.0 B
L-88-9	-	-	-	< 1.0 B
LS-11	230.0 B	200.0 B	46.0 B	< 1.0 B
LS-6	-	-	-	< 1.0 B
LS-8	< 1.0 B	-	-	-
RAINBOW	-	-	-	< 1.0 B

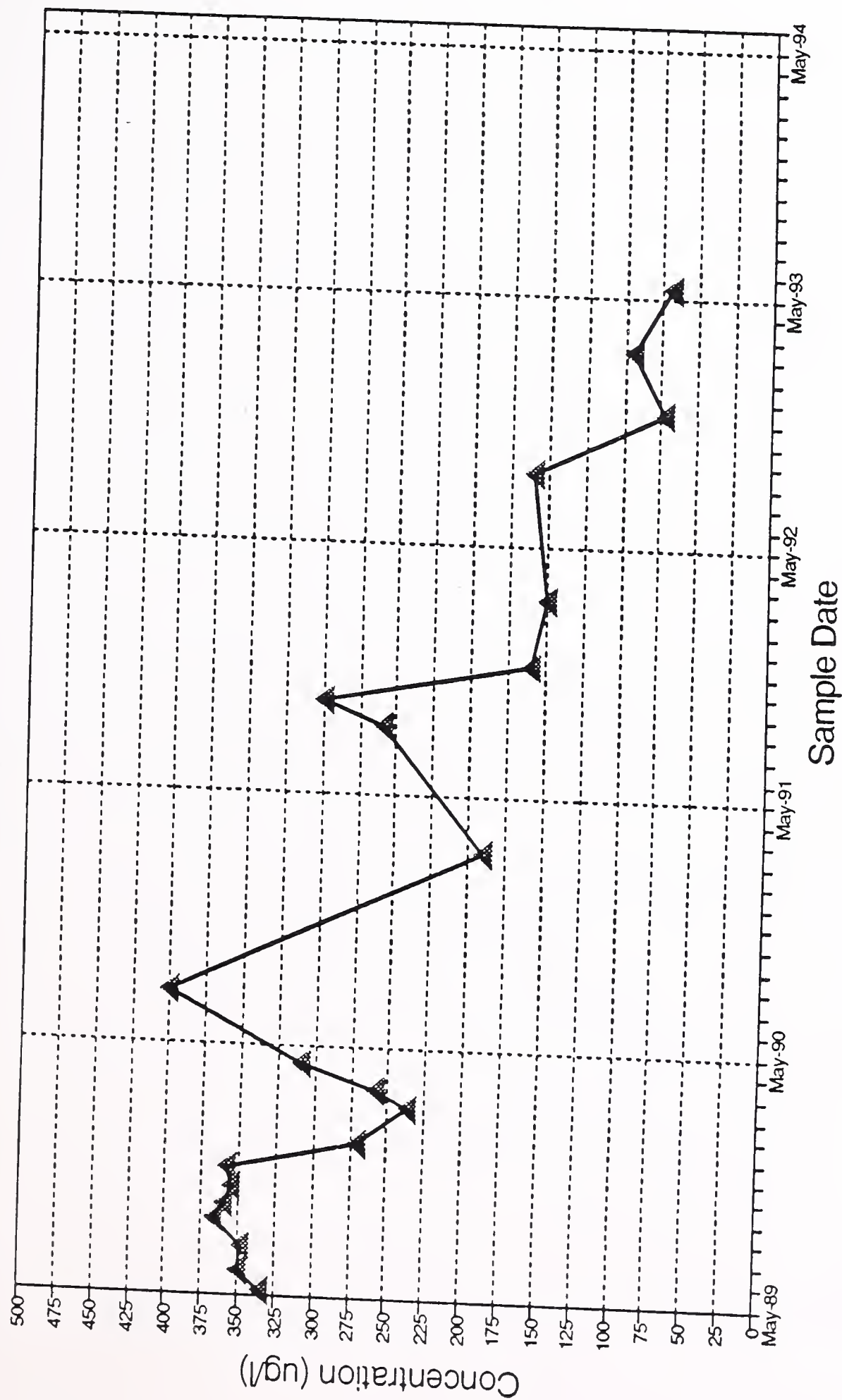
Note: Analyte concentrations are listed with assigned data usability validation codes.
Validation Code Definition: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

FIGURES

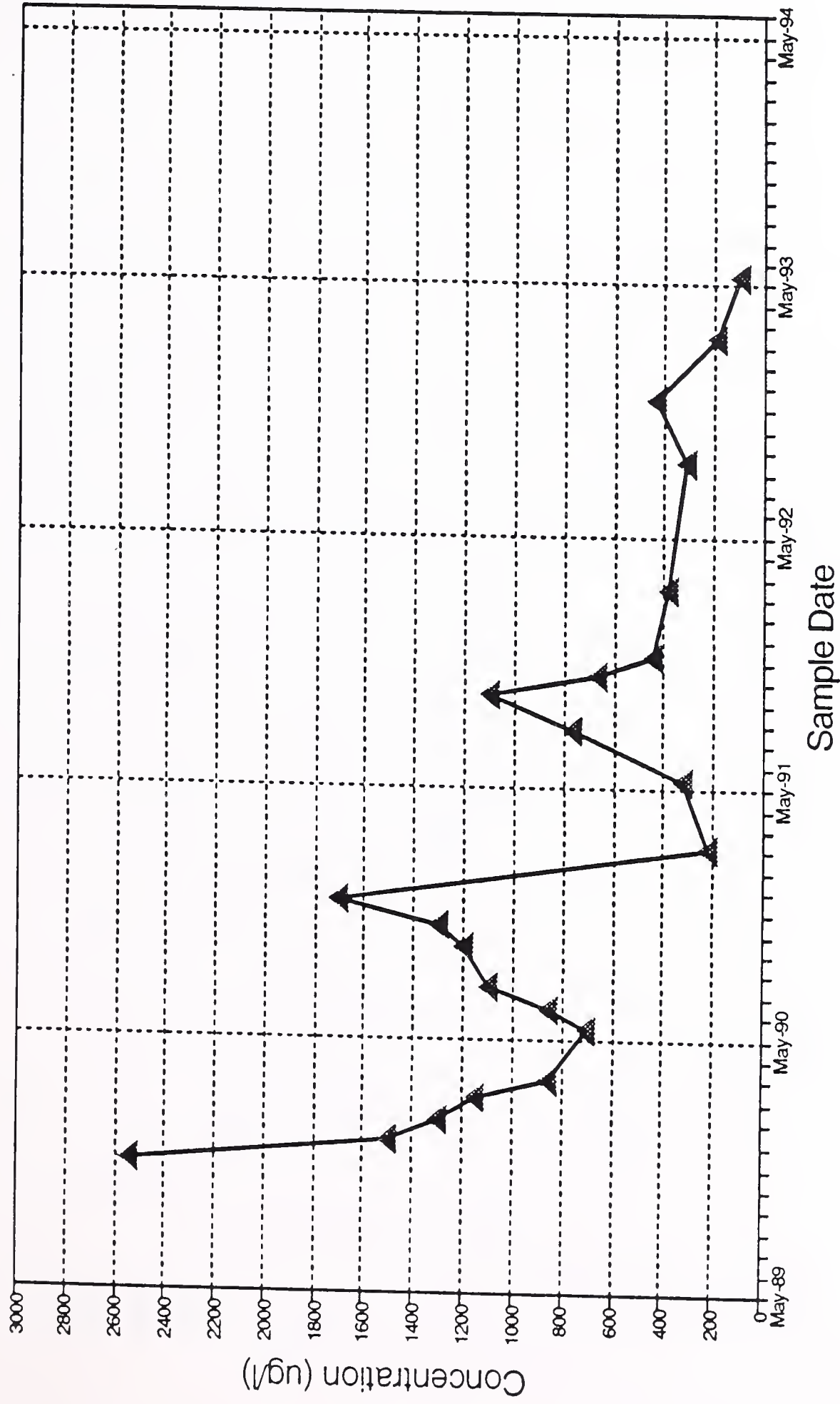


BURLINGTON NORTHERN	TETRACHLOROETHENE (PCE) CONCENTRATIONS FOR WELL 89-9	
	8/26/93	FIGURE 3.0
SECOND QUARTER 1993 GROUND WATER REPORT LIVINGSTON RAIL YARD		
AutoCad FILE: GW-WELLS.DWG		

ENVIROCON, INC.

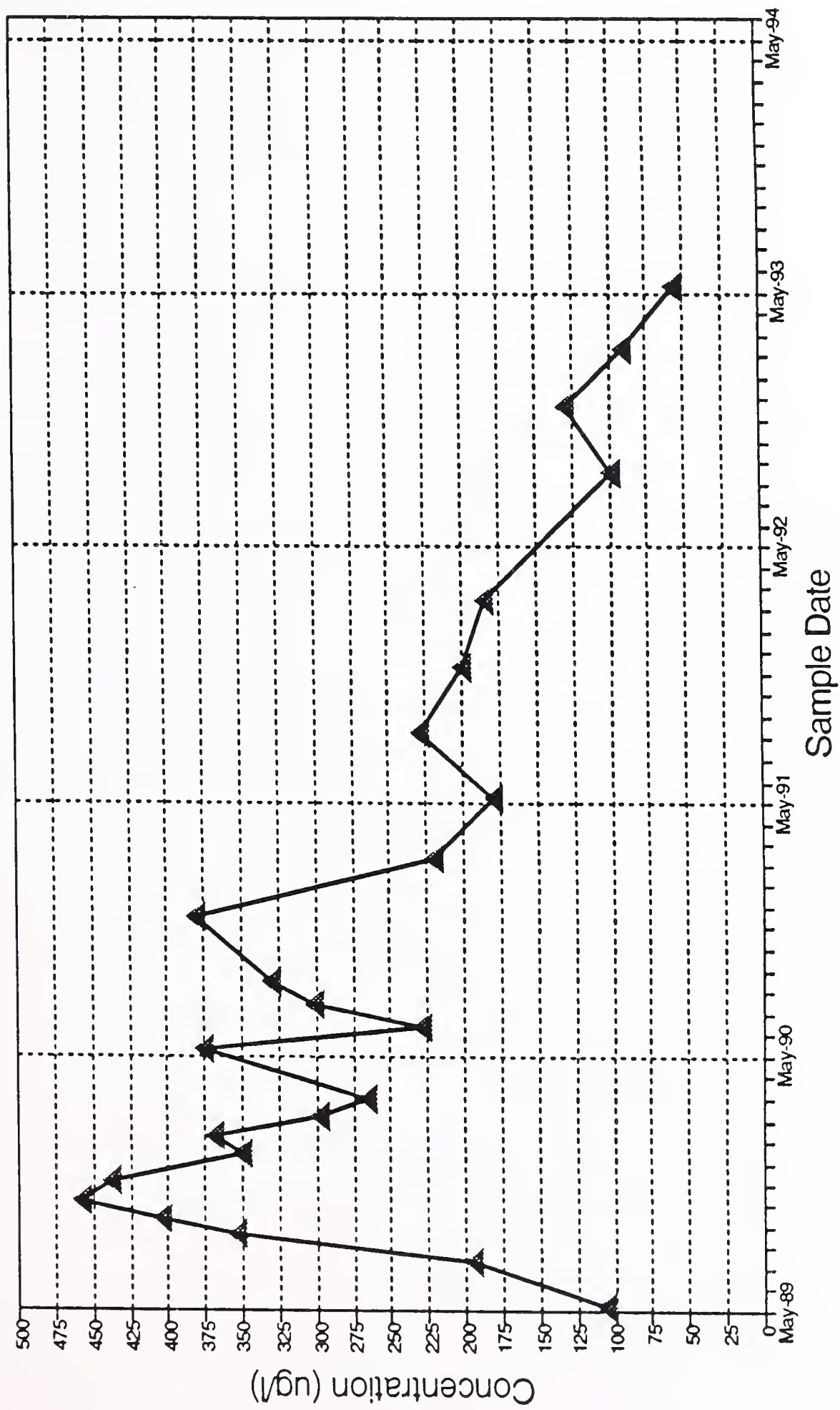


BURLINGTON NORTHERN	TE TRACHLOROETHENE (PCE) CONCENTRATIONS FOR WELL L-87-5	
	SECOND QUARTER 1993 GROUND WATER REPORT LIVINGSTON RAIL YARD	8/26/93
ENVIROCON, INC.		FIGURE 4.0
AutoCad FILE: GW-WELLS.DWG		

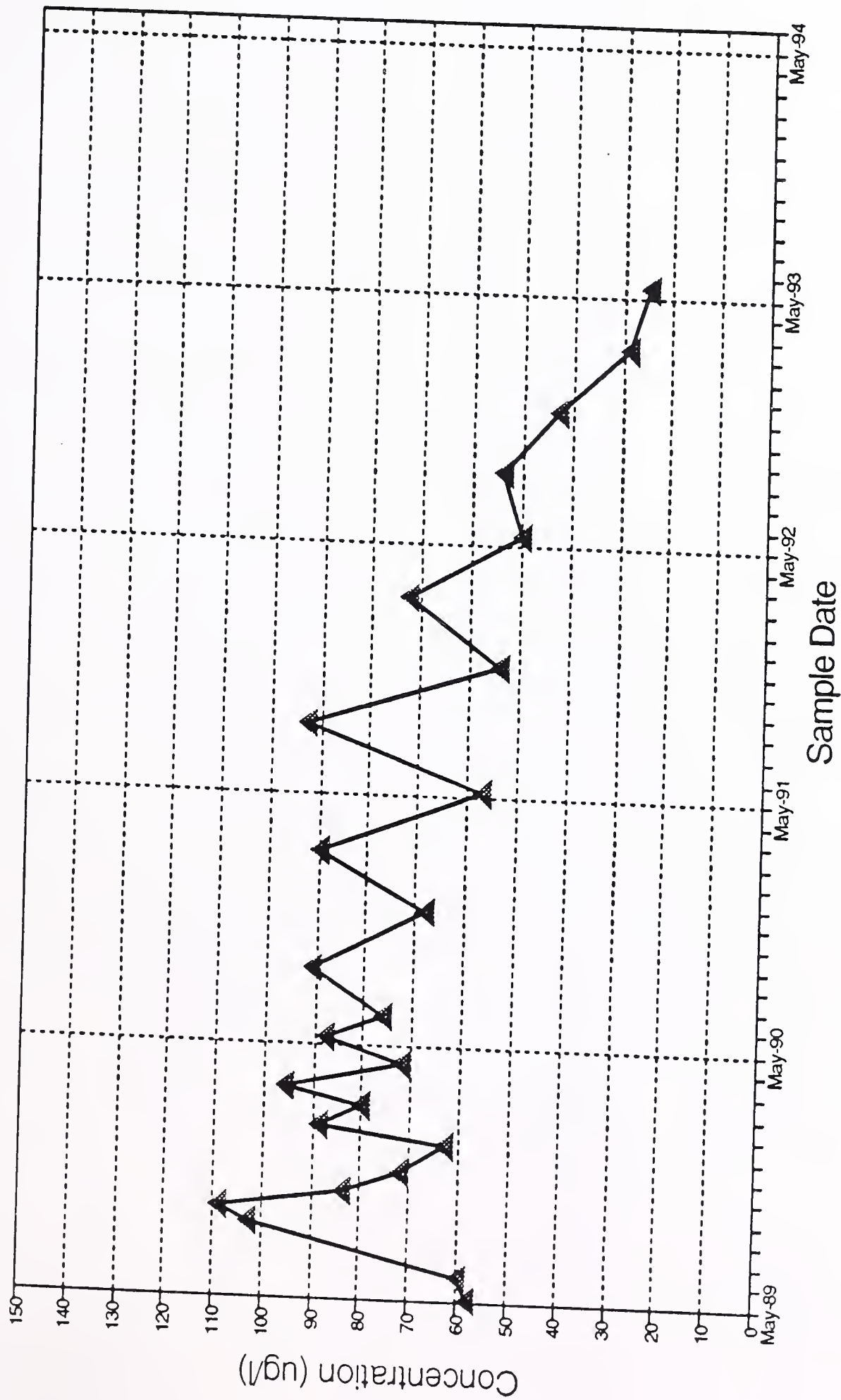


BURLINGTON NORTHERN	SECOND QUARTER 1993 GROUND WATER REPORT LIVINGSTON RAIL YARD		cis-1,2-DICHLOROETHENE (DCE) CONCENTRATIONS FOR WELL L-87-2	
	ENVIROCON, INC.		8/26/93	FIGURE 5.0

AutoCad FILE: GW-WELLS.DWG



BURLINGTON NORTHERN	SECOND QUARTER 1993 GROUND WATER REPORT LIVINGSTON RAIL YARD		cis-1,2-DICHLOROETHENE (DCE) CONCENTRATIONS FOR WELL L-88-10
	AutoCad FILE: GW-WELLS.DWG		
ENVIROCON, INC.			8/26/93
			FIGURE 6.0



BURLINGTON NORTHERN	cis-1,2-DICHLOROETHENE (DCE) CONCENTRATIONS FOR WELL LS-11	
	SECOND QUARTER 1993 GROUND WATER REPORT LIVINGSTON RAIL YARD	8/26/93
ENVIROCON, INC.		FIGURE 7.0
AutoCad FILE: GW-WELLS.DWG		

APPENDIX A

DATA VALIDATION AND ANALYTICAL RESULTS

**DATA VALIDATION REPORT FOR GROUNDWATER ANALYSES
LIVINGSTON RAIL YARD, LIVINGSTON, MONTANA
MAY 1993 ANNUAL SAMPLING ROUND**

RECEIVED
AUG 15 1993
Envirocon, Inc.
Livingston, Me.

1.0 INTRODUCTION

Data validation levels have been established for the sample round according to the criteria described in Appendix 1.A of the Remedial Investigation Report. The data validation levels and codes for the Livingston Rail Yard project are based on the U.S. Environmental Protection Agency Region VIII guidance, "Evaluation Criteria for Existing Data from CERCLA Study Areas", Revision 1, January 5, 1985.

Table 1 lists the samples taken during the May, 1993 annual sampling round.

Table 1. Samples collected for analyses during the May, 1993 Annual Sampling Round

<u>Sample Station</u>	<u>Sample Type</u>	<u>Date Sampled</u>	<u>Date Analyzed</u>	<u>Envirocon Field ID #</u>	<u>Laboratory ID #</u>
1	Primary Sample	05/26/93	06/09/93	140101-1206	93-20601
2	Primary Sample	05/26/93	06/09/93	140101-1205	93-20600
2	Laboratory Duplicate	05/26/93	06/11/93	140101-1205	93-20600 dup
3	Primary Sample	05/27/93	06/09/93	140101-1208	93-20603
3	Field Duplicate	05/27/93	06/09/93	140101-1209	93-20604
4	Primary Sample	05/26/93	06/08/93	140101-1204	93-20599
5	Primary Sample	05/26/93	06/08/93	140101-1203	93-20598
6	Primary Sample	05/26/93	06/08/93	140101-1201	93-20596
6	Field Duplicate	05/26/93	06/08/93	140101-1202	93-20597
7	Primary Sample	05/27/93	06/09/93	140101-1218	93-20613
7	Field Duplicate	05/27/93	06/09/93	140101-1219	93-20614
8	Primary Sample	05/27/93	06/09/93	140101-1217	93-20612
89-1	Primary Sample	05/27/93	06/09/93	140101-1210	93-20605
89-10	Primary Sample	06/07/93	06/18/93	140101-1221	93-24641
89-2	Primary Sample	05/24/93	06/03/93	140101-1183	93-20424
89-2	Laboratory Duplicate	05/24/93	06/08/93	140101-1183	93-20424 dup
89-3	Primary Sample	05/25/93	06/04/93	140101-1190	93-20428
89-4	Primary Sample	05/24/93	06/03/93	140101-1185	93-20426
89-6	Primary Sample	05/27/93	06/09/93	140101-1213	93-20608
89-7	Primary Sample	05/27/93	06/09/93	140101-1212	93-20607
89-9	Primary Sample	05/25/93	06/03/93	140101-1193	93-20430
90-2B	Primary Sample	05/27/93	06/09/93	140101-1214	93-20609
90-3	Primary Sample	05/25/93	06/07/93	140101-1191	93-20429
90-6	Primary Sample	05/27/93	06/09/93	140101-1216	93-20611
92-1	Primary Sample	05/27/93	06/09/93	140101-1215	93-20610
92-1	Laboratory Duplicate	05/27/93	06/17/93	140101-1215	93-20610 dup
92-2	Primary Sample	06/07/93	06/18/93	140101-1222	93-24642
92-3	Primary Sample	05/27/93	06/08/93	140101-1207	93-20602
92-4	Primary Sample	05/26/93	06/08/93	140101-1197	93-20595
B-STREET	Primary Sample	05/25/93	06/03/93	140101-1189	93-20420
B-STREET	Laboratory Duplicate	05/25/93	06/04/93	140101-1189	93-20420 dup
L-87-2	Primary Sample	05/25/93	06/02/93	140101-1195	93-20422
L-87-3	Primary Sample	05/24/93	06/03/93	140101-1184	93-20425
L-87-4	Primary Sample	05/26/93	06/07/93	140101-1198	93-20591
L-87-5	Primary Sample	05/25/93	06/07/93	140101-1194	93-20431
L-87-7	Primary Sample	05/26/93	06/07/93	140101-1199	93-20592
L-87-8	Primary Sample	05/26/93	06/07/93	140101-1200	93-20593
L-88-10	Primary Sample	05/24/93	06/02/93	140101-1181	93-20417
L-88-13	Primary Sample	05/24/93	06/03/93	140101-1182	93-20423

L-88-9	Primary Sample	05/25/93	06/04/93	140101-1186	93-20427
LS-11	Primary Sample	05/25/93	06/02/93	140101-1192	93-20421
LS-6	Primary Sample	05/25/93	06/07/93	140101-1187	93-20418
LS-6	Field Duplicate	05/25/93	06/02/93	140101-1188	93-20419
RAINBOW	Primary Sample	05/27/93	06/09/93	140101-1220	93-20615

2.0 EVALUATION OF BLANK ANALYSES

Laboratory and trip blanks analyzed for this sampling round are summarized in Table 2. One trip blank had a detectable concentration of Chloroform during analysis. Sample 140101-1211 had a Chloroform concentration of 3.9 ug/l; however, of all the samples taken during the May, 1993 sampling event, this was the only detectable concentration of Chloroform. No other contaminants were found in blanks analyzed for the May 1993 sampling round. All blank analyses are presented at the end of this report.

Table 2. Laboratory and Trip Blanks analyzed during the May, 1993 Annual Sampling Round

<u>Sample Station</u>	<u>Sample Type</u>	<u>Date Sampled</u>	<u>Date Analyzed</u>	<u>Envirocon Field ID #</u>	<u>Laboratory ID #</u>
BLANK	Field (Trip) Blank	05/26/93	06/08/93	140101-1196	93-20594
BLANK	Field (Trip) Blank	05/27/93	06/09/93	140101-1211	93-20606
BLANK	Laboratory Blank	06/02/93	06/02/93	Method Blank	Blank
BLANK	Laboratory Blank	06/03/93	06/03/93	Method Blank	Blank
BLANK	Laboratory Blank	06/03/93	06/03/93	Method Blank	Blank
BLANK	Laboratory Blank	06/04/93	06/04/93	Method Blank	Blank
BLANK	Laboratory Blank	06/04/93	06/04/93	Method Blank	Blank
BLANK	Laboratory Blank	06/07/93	06/07/93	Method Blank	Blank
BLANK	Laboratory Blank	06/07/93	06/07/93	Method Blank	Blank
BLANK	Laboratory Blank	06/07/93	06/07/93	Method Blank	Blank
BLANK	Laboratory Blank	06/08/93	06/08/93	Method Blank	Blank
BLANK	Laboratory Blank	06/08/93	06/08/93	Method Blank	Blank
BLANK	Laboratory Blank	06/09/93	06/09/93	Method Blank	Blank
BLANK	Laboratory Blank	06/11/93	06/11/93	Method Blank	Blank
BLANK	Laboratory Blank	06/18/93	06/18/93	Method Blank	Blank

3.0 EVALUATION OF DUPLICATE ANALYSES

Field and laboratory duplicates collected during the May, 1993 sampling round are summarized in Table 3. One field duplicate sample had an analyte concentration with a relative percent difference (RPD) exceeding 30%. The field duplicate taken of well LS-6 (sample 140101-1188) had a sec-Butylbenzene concentration of 1.4 ug/l, while the initial sample (140101-1187) had a concentration of 2.3 ug/l, resulting in an RPD of 48.6%. Of all samples taken during the May, 1993 sampling event, this was the the only detected concentration of sec-Butylbenzene. All other duplicate comparisons had RPD's less than 30%.

Table 3. Duplicate Samples analyzed during the May, 1993 Annual Sampling Round

<u>Sample Station</u>	<u>Sample Type</u>	<u>Date Sampled</u>	<u>Date Analyzed</u>	<u>Envirocon Field ID #</u>	<u>Laboratory ID #</u>
2	Primary Sample	05/26/93	06/09/93	140101-1205	93-20600
2	Laboratory Duplicate	05/26/93	06/11/93	140101-1205	93-20600 dup

3	Primary Sample	05/27/93	06/09/93	140101-1208	93-20603
3	Field Duplicate	05/27/93	06/09/93	140101-1209	93-20604
6	Primary Sample	05/26/93	06/08/93	140101-1201	93-20596
6	Field Duplicate	05/26/93	06/08/93	140101-1202	93-20597
7	Primary Sample	05/27/93	06/09/93	140101-1218	93-20613
7	Field Duplicate	05/27/93	06/09/93	140101-1219	93-20614
89-2	Primary Sample	05/24/93	06/03/93	140101-1183	93-20424
89-2	Laboratory Duplicate	05/24/93	06/08/93	140101-1183	93-20424 dup
92-1	Primary Sample	05/27/93	06/09/93	140101-1215	93-20610
92-1	Laboratory Duplicate	05/27/93	06/17/93	140101-1215	93-20610 dup
B-STREET	Primary Sample	05/25/93	06/03/93	140101-1189	93-20420
B-STREET	Laboratory Duplicate	05/25/93	06/04/93	140101-1189	93-20420 dup
LS-6	Primary Sample	05/25/93	06/07/93	140101-1187	93-20418
LS-6	Field Duplicate	05/25/93	06/02/93	140101-1188	93-20419

4.0 EVALUATION OF HOLDING TIMES

Holding times for samples taken during the May, 1993 sampling event were examined for exceedences. Three laboratory QA/QC duplicate analyses exceeded the recommended 14 day holding time for purgeable halocarbons and are summarized in Table 4. Exceedences were 1, 2, and 7 days. The holding time exceedences are not expected to affect sample results because the relative percent differences for each of the duplicate comparisons were less than 30%. All other samples were analyzed within recommended holding time limits.

Table 4. Summary of analyses which exceeded holding time restrictions

<u>Sample Station</u>	<u>Sample Type</u>	<u>Date Sampled</u>	<u>Date Analyzed</u>	<u>Envirocon Field ID #</u>	<u>Laboratory ID #</u>
2	Laboratory Duplicate	05/26/93	06/11/93	140101-1205	93-20600 dup
89-2	Laboratory Duplicate	05/24/93	06/08/93	140101-1183	93-20424 dup
92-1	Laboratory Duplicate	05/27/93	06/17/93	140101-1215	93-20610 dup

5.0 EVALUATION OF MATRIX AND SURROGATE SPIKE RESULTS

All matrix spike and surrogate spike recoveries were within acceptable limits. All U.S. Environmental Protection Agency water supply quality control samples were within recovery limits. The matrix spike, surrogate spike, and U.S. EPA water supply quality control sample results are provided at the end of this report.

6.0 VALIDATION LEVEL ASSIGNMENTS

All analytical results for the May 1993 sampling round are acceptable for quantitative data analysis, except for those listed in Table 5. Analytical results listed in Table 5 have been degraded to screening quality for the reasons listed.

Table 5. Validation results - analytical results flagged as non-quantitative

Sample Station	Date Sampled	Date Analyzed	Sample Type	Envirocon Field ID #	Laboratory ID #	Analyte Affected	Concentration	Validation	Reason
BLANK	05/27/93	06/09/93	Field (Trip) Blank	140101-1211	93-20606	Chloroform	3.9 ug/l	A	Blank Contaminant
LS-6	05/25/93	06/07/93	Primary Sample	140101-1187	93-20418	sec-Butylbenzene	2.3 ug/l	A	Duplicate RPD
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Bromodichloromethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Bromoform	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Bromomethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Carbon tetrachloride	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Chlorobenzene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Chloroethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	2-Chloroethyl vinyl ether	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	2-Chlorotoluene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Chloroform	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Chloromethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Dibromochloromethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,2-Dichlorobenzene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,3-Dichlorobenzene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,4-Dichlorobenzene	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,1-Dichloroethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,2-Dichloroethane	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,1-Dichloroethene	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	cis-1,2-Dichloroethene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	trans-1,2-Dichloroethene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,2-Dichloropropane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	cis-1,3-Dichloropropene	< 1.0 ug/l	A	Holding Time

Validation Code Definitions: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

Table 5. Validation results - analytical results flagged as non-quantitative (continued)

Sample Station	Date Sampled	Date Analyzed	Sample Type	Envirocon Field ID #	Laboratory ID #	Analyte Affected	Concentration	Validation	Reason
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	trans-1,3-Dichloropropene	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Methylene chloride	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,1,2,2-Tetrachloroethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Tetrachloroethene	0.8 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,1,1-Trichloroethane	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	1,1,2-Trichloroethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Trichloroethene	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Trichlorofluoromethane	< 1.0 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Vinyl chloride	< 0.5 ug/l	A	Holding Time
2	05/26/93	06/11/93	Laboratory Duplicate	140101-1205	93-20600 dup	Dichlorodifluoromethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Bromodichloromethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Bromoform	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Bromomethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Carbon tetrachloride	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Chlorobenzene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Chloroethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	2-Chloroethyl vinyl ether	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	2-Chlorotoluene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Chloroform	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Chloromethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Dibromochloromethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,2-Dichlorobenzene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,3-Dichlorobenzene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,4-Dichlorobenzene	< 0.5 ug/l	A	Holding Time

Validation Code Definitions: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

Table 5. Validation results - analytical results flagged as non-quantitative (continued)

Sample Station	Date Sampled	Date Analyzed	Sample Type	Envirocon Field ID #	Laboratory ID #	Analyte Affected	Concentration	Validation	Reason
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,1-Dichloroethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,2-Dichloroethane	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,1-Dichloroethene	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	cis-1,2-Dichloroethene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	trans-1,2-Dichloroethene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,2-Dichloropropane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	cis-1,3-Dichloropropene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	trans-1,3-Dichloropropene	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Methylene chloride	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,1,2,2-Tetrachloroethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Tetrachloroethene	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,1,1-Trichloroethane	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	1,1,2-Trichloroethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Trichloroethene	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Trichlorofluoromethane	< 1.0 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Vinyl chloride	< 0.5 ug/l	A	Holding Time
89-2	05/24/93	06/08/93	Laboratory Duplicate	140101-1183	93-20424 dup	Dichlorodifluoromethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Bromodichloromethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Bromoform	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Bromomethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Carbon tetrachloride	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Chlorobenzene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Chloroethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	2-Chloroethyl vinyl ether	< 1.0 ug/l	A	Holding Time

Validation Code Definitions: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

Table 5. Validation results - analytical results flagged as non-quantitative (continued)

Sample Station	Date Sampled	Date Analyzed	Sample Type	Envirocon Field ID #	Laboratory ID #	Analyte Affected	Concentration	Validation	Reason
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	2-Chlorotoluene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Chloroform	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Chloromethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Dibromochloromethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,2-Dichlorobenzene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,3-Dichlorobenzene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,4-Dichlorobenzene	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,1-Dichloroethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,2-Dichloroethane	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,1-Dichloroethene	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	cis-1,2-Dichloroethene	2.6 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	trans-1,2-Dichloroethene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,2-Dichloropropane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	cis-1,3-Dichloropropene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	trans-1,3-Dichloropropene	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Methylene chloride	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,1,2,2-Tetrachloroethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Tetrachloroethene	430.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,1,1-Trichloroethane	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	1,1,2-Trichloroethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Trichloroethene	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Trichlorofluoromethane	< 1.0 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Vinyl chloride	< 0.5 ug/l	A	Holding Time
92-1	05/27/93	06/17/93	Laboratory Duplicate	140101-1215	93-20610 dup	Dichlorodifluoromethane	< 1.0 ug/l	A	Holding Time

Validation Code Definitions: B - Quantitative Quality, A - Qualitative Quality, U - Unusable

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20417
DATE: 06/22/93 jmw

WATER ANALYSIS

Livingston/BN, 140101-1181
Sampled 05/24/93 @ 1600
Submitted 05/28/93
Analyzed 06/02/93

2-88-10

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JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
Isobutylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	3.6	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	47 *
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Bromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Bromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	15
1,4-Dichlorobenzene	0.57	Trichlorofluoromethane	<1.0
1-Chlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	57 *	Xylenes	<1.0
trans-1,2-Dichloroethene	1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

Value derived from a 10x dilution.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20423
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993
Envirocon, Inc.
Livingston, MT.

WATER ANALYSIS

Livingston BN, 140101-1182
Sampled 05/24/93 @ 1644
Submitted 05/28/93
Analyzed 06/03/93

1-88-13

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	2.3
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	21
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	3.3
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20424
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993
Envirocon, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston BN, 140101-1183
Sampled 05/24/93 @ 1718
Submitted 05/28/93
Analyzed 06/03/93

89-2

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

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LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20424 dup
DATE: 06/22/93 jmw

QUALITY ASSURANCE - DUPLICATE ANALYSIS

Livingston BN, 140101-1183
Sampled 05/24/93 @ 1718
Submitted 05/28/93
Analyzed 06/08/93

89-2

RECEIVED
JUN 25 1993
ENVIROCON, INC.
LIVINGSTON, MT.

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

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LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20425
DATE: 06/22/93 jmw

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JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston BN, 140101-1184
Sampled 05/24/93 @ 1745
Submitted 05/28/93
Analyzed 06/03/93

L-87-3

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	30 *
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	88 *
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	11
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 10x dilution.

LABORATORY REPORT**TO:** Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047**LAB NO:** 93-20426
DATE: 06/22/93 jmw**WATER ANALYSIS**Livingston BN, 140101-1185
Sampled 05/24/93 @ 1820
Submitted 05/28/93
Analyzed 06/03/93**RECEIVED**

JUN 25 1993

ENVIROCON, INC.
Livingston, MT.**CONSTITUENT****µg/l****Purgeable Halocarbons (EPA Method 624)**

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	1.2
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	150 *
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	2.0
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

* Value derived from a 100x dilution.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20427
DATE: 06/22/93 jmw

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ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston BN, 140101-1186
Sampled 05/25/93 @ 0935
Submitted 05/28/93
Analyzed 06/04/93

L-88-9

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

m 6/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20418
DATE: 06/22/93 jmw

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JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.WATER ANALYSIS

Livingston/BN, 140101-1187
Sampled 05/25/93 @ 1000
Submitted 05/28/93
Analyzed 06/07/93

LS-6

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	4.1	Hexachlorobutadiene	<1.0
o-Butylbenzene	2.3	Isopropylbenzene	1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
1,1-Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
1,1-Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
1,1-Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20419
DATE: 06/22/93 jmw

RECEIVED

JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.WATER ANALYSIS

Livingston/BN, 140101-1188
Sampled 05/25/93 @ 1005
Submitted 05/28/93
Analyzed 06/02/93

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	3.8	Hexachlorobutadiene	<1.0
o-Butylbenzene	1.4	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Bromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Bromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
1,1-Dichloroethane	<1.0	1,2,3-Trichloropropane	<1.0
1,2-Dichloroethane	<0.50	1,2,4-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	1,3,5-Trimethylbenzene	<1.0
cis-1,2-Dichloroethene	<1.0	Vinyl chloride	<0.50
trans-1,2-Dichloroethene	<1.0	Xylenes	<1.0
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20420
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston/BN, 140101-1189
Sampled 05/25/93 @ 1040
Submitted 05/28/93
Analyzed 06/03/93

B-St

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
m-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Bromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Bromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Chlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		
1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

m6/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047LAB NO.: 93-20420 dup
DATE: 06/22/93 jmwQUALITY ASSURANCE - DUPLICATE ANALYSISLivingston/BN, 140101-1189
Sampled 05/25/93 @ 1040
Submitted 05/28/93
Analyzed 06/04/93

B-Street

RECEIVED
JUN 25 1993ENVIROCON, Inc.
Livingston, Mt.

<u>Volatile Organic Constituent</u>	<u>ug/l</u>	<u>Volatile Organic Constituent</u>	<u>ug/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
o-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Bromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Bromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Chlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20428
DATE: 06/22/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1190
Sampled 05/25/93 @ 1146
Submitted 05/28/93
Analyzed 06/04/93

89-3

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JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

CONSTITUENT
µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	220 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	0.78
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 100x dilution.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20429
DATE: 06/22/93 jmw

RECEIVED

JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston BN, 140101-1191
Sampled 05/25/93 @ 1420
Submitted 05/28/93
Analyzed 06/07/93

90-3

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	11
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	44 *
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	4.2
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*This value is an estimate only because it exceeds the linear range of the curve, not enough sample was available for dilution.



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FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

m 6/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20421
DATE: 06/22/93 jmw

WATER ANALYSIS

Livingston/BN, 140101-1192
Sampled 05/25/93 @ 1515
Submitted 05/28/93
Analyzed 06/02/93

LS-11

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ENVIROCON, Inc.
Livingston, Mt.

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
o-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
o-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	54 *
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
1,1-Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
1,1-Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	9.0
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
1,1-Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	25 *	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

Value derived from a 10x dilution.

m 6/25/93

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20430
DATE: 06/22/93 jmw

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JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston BN, 140101-1193
Sampled 05/25/93 @ 1640
Submitted 05/28/93
Analyzed 06/03/93

89-9

CONSTITUENT
µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	1.8
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	41 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	7.6
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 25x dilution.



ENERGY LABORATORIES, INC.

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FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20431
DATE: 06/22/93 jmw

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JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston BN, 140101-1194
Sampled 05/25/93 @ 1715
Submitted 05/28/93
Analyzed 06/07/93

L-875

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	2.2
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	70 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	6.2
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 25x dilution.

LABORATORY REPORT

mw/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20422
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993ENVIROCON, Inc.
Livingston, Mt.WATER ANALYSIS

Livingston/BN, 140101-1195
Sampled 05/25/93 @ 1750
Submitted 05/28/93
Analyzed 06/02/93

L-87-2

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	44 *	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
1-Chlorotoluene	68 *	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	0.78
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
1,1-Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
1,1-Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	2.8	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	19
1,4-Dichlorobenzene	2.5	Trichlorofluoromethane	<1.0
1,1-Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	0.55
cis-1,2-Dichloroethene	100 *	Xylenes	3.3
trans-1,2-Dichloroethene	2.5		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

Value derived from a 25x dilution.

**ENERGY LABORATORIES, INC.**

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20425
DATE: 06/22/93 jmw

RECEIVED

JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

QUALITY ASSURANCE SPIKED ANALYSIS

This Quality Assurance Spiked sample was analyzed 06/09/93 with your lab
no. 93-20425 with the following results:

<u>Constituent</u>	<u>Spike Amount, $\mu\text{g/l}$</u>	<u>P (%)</u>	<u>Range for P (%)</u>
Chlorobenzene	50	120	60-140
1,2-Dichlorobenzene	50	103	60-140
cis-1,2-Dichloroethylene	50	108	60-140
Trans-1,2-Dichloroethylene	50	120	60-140
1,2-Dichloropropane	50	126	60-140
Ethyl Benzene	50	88	60-140
Styrene	50	103	60-140
Tetrachloroethylene	50	98	60-140
Toluene	50	117	60-140
O-Xylene	50	101	60-140
P-Xylene	50	127	60-140

P = Percent recovery measured.

REMARKS: The sample was diluted 10x before spiking.



ENERGY LABORATORIES, INC.

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LABORATORY REPORT FAX (406) 252-6069 • 1-800-735-4489

me/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20423-31
DATE: 06/22/93 jmw

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JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

601 WATER VOLATILE SURROGATE RECOVERY

10 µg/l Surrogate Standard Spike

<u>SAMPLE NO.</u>	-----% recovery-----		
	<u>S1</u> <u>(TOL)#</u>	<u>S2</u> <u>(BFB)#</u>	<u>S3</u> <u>(DCE)#</u>
93-20423	97	96	84
93-20424	100	103	84
93-20424 M.S.D.	98	97	95
93-20425	93	90	100
93-20426	100	101	86
93-20427	96	103	90
93-20428	97	98	86
93-20429	96	93	84
93-20430	93	110	86
93-20431	95	103	83
Blank 06/03/93	101	99	86
Blank 06/04/93	92	96	92
Blank 06/07/93	92	100	93
Blank 06/08/93	97	100	92

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery
80-120
80-120
80-120

#Column to be used to flag recovery values with an asterisk.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: Blank
DATE: 06/22/93 jmw

WATER ANALYSIS

Method Blank 06/08/93
Analyzed 06/08/93

RECEIVED
JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: Blank
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Method Blank 06/07/93
Analyzed 06/07/93

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

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LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: Blank
DATE: 06/22/93 jmn

RECEIVED
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ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Method Blank 06/04/93
Analyzed 06/04/93

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: Blank
DATE: 06/22/93 jmw

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JUN 25 1993
ENVIROCON, INC.
Livingston, MT.

WATER ANALYSIS

Method Blank 06/03/93
Analyzed 06/03/93

CONSTITUENT	ug/l
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 06/22/93 jmw

RECEIVED

JUN 25 1993

ENVIROCON, Inc.
Livingston, Mt.WATER ANALYSIS

Method Blank
Analyzed 06/07/93

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
3-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

m 6/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 06/22/93 jmw

WATER ANALYSIS

Method Blank
Analyzed 06/04/93

RECEIVED
JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
1-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 06/22/93 jmw

WATER ANALYSIS

Method Blank
Analyzed 06/03/93

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JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	< 1.0
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	< 1.0
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	< 0.50
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	< 0.50
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	< 1.0
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	< 1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		
1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

m 6/25/93

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047**LAB NO.:** Blank
DATE: 06/22/93 jmw**RECEIVED**
JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.WATER ANALYSISMethod Blank
Analyzed 06/02/93

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
1-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.



ENERGY LABORATORIES, INC.

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FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20417-22
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.

524.2 WATER VOLATILE SURROGATE RECOVERY

10 µg/l Surrogate Standard Spike

<u>SAMPLE NO.</u>	-----% recovery-----		
	<u>S1</u> <u>(TOL)#</u>	<u>S2</u> <u>(BFB)#</u>	<u>S3</u> <u>(DCE)#</u>
93-20417	98	98	88
93-20418	111	86	82
93-20419	99	84	86
93-20420	97	110	87
93-20420 dup	94	103	94
93-20421	103	96	88
93-20422	100	97	86
Blank 06/02/93	100	100	100
Blank 06/03/93	101	99	86
Blank 06/04/93	92	96	92
Blank 06/07/93	92	100	93

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery
80-120
80-120
80-120

#Column to be used to flag recovery values with an asterisk.



ENERGY LABORATORIES, INC.

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FAX (406) 252-6069 • 1-800-735-4489

W 6/25/93

LABORATORY REPORT

TO: Dan McCaffery
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20417-30
DATE: 06/22/93 jmw

RECEIVED
JUN 25 1993
ENVIROCON, Inc.
Livingston, Mt.

EPA WATER SUPPLY QUALITY CONTROL SAMPLE

Volatile Organic Contaminants

This EPA Quality Control sample was analyzed 06/08/93 with your lab
nos. 93-20417 to 93-20430 with the following results:

<u>Constituent</u>	<u>Spike Amount, µg/l</u>	<u>P (%)</u>	<u>Range for P (%)</u>
1,1-Dichloroethene	5.0	138	60-140
trans-1,2-Dichloroethene	5.0	136	60-140
1,2-Dichloroethane	5.0	125	60-140
Carbon Tetrachloride	5.0	132	60-140
1,2-Dichloropropane	5.0	140	60-140
1,1,2-Trichloroethane	5.0	128	60-140
Tetrachloroethene	5.0	122	60-140
Chlorobenzene	5.0	130	60-140
Ethylbenzene	5.0	112	60-140
1,3-Dichlorobenzene	5.0	114	60-140
1,4-Dichlorobenzene	5.0	112	60-140

P = Percent recovery measured.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

me/25/93

RECEIVED

JUN 25 1993

ENVIROCON, Inc.
Livingston, MT.

June 23, 1993

Dan McCaffery
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On May 28, 1993 these samples, represented by our laboratory numbers 93-20417 to 93-20431 were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20594
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1196
Sampled 05/26/93 @ 0830
Submitted 06/01/93
Analyzed 06/08/93

Jim Blank

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

11/6/55/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20595
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1197
Sampled 05/26/93 @ 1040
Submitted 06/01/93
Analyzed 06/08/93

92-4

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	33 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	2.9
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 10x dilution.

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20591
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston/BN, 140101-1198
Sampled 05/26/93 @ 1110
Submitted 06/01/93
Analyzed 06/07/93

L-87-4

<u>Volatile Organic Constituent</u>	<u>ug/l</u>	<u>Volatile Organic Constituent</u>	<u>ug/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.

LABORATORY REPORT

mk/35/45

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20592
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston/BN, 140101-1199
Sampled 05/26/93 @ 1130
Submitted 06/01/93
Analyzed 06/07/93

L-87-7

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
n-Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	3.7
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
4-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Dibromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
cis-1,2-Dichloroethene	<1.0	Xylenes	2.8
trans-1,2-Dichloroethene	<1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.



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LABORATORY REPORT

11/6/2013

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20593
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston/BN, 140101-1200
Sampled 05/26/93 @ 1155
Submitted 06/01/93
Analyzed 06/07/93

L-87-8

<u>Volatile Organic Constituent</u>	<u>ug/l</u>	<u>Volatile Organic Constituent</u>	<u>ug/l</u>
Benzene	< 0.50	1,3-Dichloropropane	< 1.0
Bromobenzene	< 1.0	2,2-Dichloropropane	< 1.0
Bromochloromethane	< 1.0	1,1-Dichloropropene	< 1.0
Bromodichloromethane	< 1.0	cis-1,3-Dichloropropene	< 1.0
Bromoform	< 1.0	trans-1,3-Dichloropropene	< 1.0
Bromomethane	< 1.0	Ethylbenzene	< 1.0
n-Butylbenzene	< 1.0	Hexachlorobutadiene	< 1.0
sec-Butylbenzene	< 1.0	Isopropylbenzene	< 1.0
tert-Butylbenzene	< 1.0	p-Isopropyltoluene	2.3
Carbon tetrachloride	< 0.50	Methylene chloride	< 1.0
Chlorobenzene	< 1.0	Naphthalene	2.1
Chloroethane	< 1.0	n-Propylbenzene	< 1.0
Chloroform	< 1.0	Styrene	< 1.0
Chloromethane	< 1.0	1,1,1,2-Tetrachloroethane	< 1.0
2-Chlorotoluene	< 1.0	1,1,2,2-Tetrachloroethane	< 1.0
4-Chlorotoluene	< 1.0	Tetrachloroethene	3.5
1,2-Dibromo-3-chloropropane	< 1.0	Toluene	< 1.0
Dibromochloromethane	< 1.0	1,2,3-Trichlorobenzene	< 1.0
1,2-Dibromoethane	< 1.0	1,2,4-Trichlorobenzene	< 1.0
Dibromomethane	< 1.0	1,1,1-Trichloroethane	< 0.50
1,2-Dichlorobenzene	< 1.0	1,1,2-Trichloroethane	< 1.0
1,3-Dichlorobenzene	< 1.0	Trichloroethene	1.5
1,4-Dichlorobenzene	< 0.50	Trichlorofluoromethane	< 1.0
Dichlorodifluoromethane	< 1.0	1,2,3-Trichloropropane	< 1.0
1,1-Dichloroethane	< 1.0	1,2,4-Trimethylbenzene	1.3
1,2-Dichloroethane	< 0.50	1,3,5-Trimethylbenzene	1.0
1,1-Dichloroethene	< 0.50	Vinyl chloride	< 0.50
cis-1,2-Dichloroethene	< 1.0	Xylenes	< 1.0
trans-1,2-Dichloroethene	< 1.0		
1,2-Dichloropropane	< 1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20596
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1201
Sampled 05/26/93 @ 1540
Submitted 06/01/93
Analyzed 06/08/93

#6

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	3.5
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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11/6/25/93

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20611
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1216
Sampled 05/27/93 @ 1530
Submitted 06/01/93
Analyzed 06/09/93

90-6

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.50
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20610 dup
DATE: 06/24/93 jmw

QUALITY ASSURANCE - DUPLICATE ANALYSIS

Livingston BN, 140101-1215
Sampled 05/27/93 @ 1452
Submitted 06/01/93
Analyzed 06/17/93

92-1

<u>CONSTITUENT</u>	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	2.6
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	430 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 100x dilution.

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20610
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1215
Sampled 05/27/93 @ 1452
Submitted 06/01/93
Analyzed 06/09/93

CONSTITUENT
µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	3.1
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	470 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 100x dilution.



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11/25/93

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20609
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1214
Sampled 05/27/93 @ 1347
Submitted 06/01/93
Analyzed 06/09/93

90.25

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	13
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	16
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	4.9
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20608
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1213
Sampled 05/27/93 @ 1315
Submitted 06/01/93
Analyzed 06/09/93

89-6

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	21
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	0.68
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
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LABORATORY REPORT

mc/55/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20607
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1212
Sampled 05/27/93 @ 1218
Submitted 06/01/93
Analyzed 06/09/93

89-7

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	14
1,1,1-Trichloroethane	0.66
1,1,2-Trichloroethane	< 1.0
Trichloroethene	4.5
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20606
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1211
Sampled 05/27/93 @ 1200
Submitted 06/01/93
Analyzed 06/09/93

Method Blank

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	3.9
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	<0.50
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20605
DATE: 06/24/93 jmw

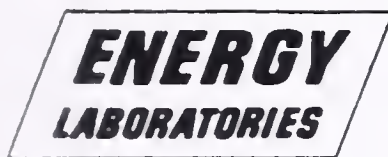
WATER ANALYSIS

Livingston BN, 140101-1210
Sampled 05/27/93 @ 1136
Submitted 06/01/93
Analyzed 06/09/93

89-1

<u>CONSTITUENT</u>	<u>ug/l</u>
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	1.6
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	13
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	0.74
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20604
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1209
Sampled 05/27/93 @ 1020
Submitted 06/01/93
Analyzed 06/09/93

Handwritten: Aug 16 #2

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.69
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20603
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1208
Sampled 05/27/93 @ 1018
Submitted 06/01/93
Analyzed 06/09/93

2

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.69
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20602
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1207
Sampled 05/27/93 @ 0915
Submitted 06/01/93
Analyzed 06/08/93

92-3

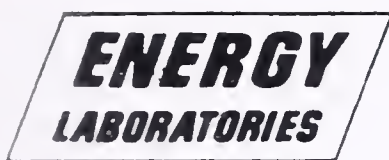
CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.51
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

m 6/25/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20601
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1206
Sampled 05/26/93 @ 1745
Submitted 06/01/93
Analyzed 06/09/93

1

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.66
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20600 dup
DATE: 06/24/93 jmw

QUALITY ASSURANCE - DUPLICATE ANALYSIS

Livingston BN, 140101-1205
Sampled 05/26/93 @ 1716
Submitted 06/01/93
Analyzed 06/11/93

1-2

<u>CONSTITUENT</u>	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	0.75
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20600
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1205
Sampled 05/26/93 @ 1716
Submitted 06/01/93
Analyzed 06/09/93

#2

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.74
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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m 6/25/93

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20599
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1204
Sampled 05/26/93 @ 1637
Submitted 06/01/93
Analyzed 06/08/93

4

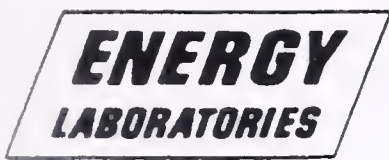
CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

mg/25/12

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20598
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1203
Sampled 05/26/93 @ 1615
Submitted 06/01/93
Analyzed 06/08/93

#5

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.50
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-20597
DATE: 06/22/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1202
Sampled 05/26/93 @ 1550
Submitted 06/01/93
Analyzed 06/08/93

Handwritten: Aug 10 #106

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	3.4
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20613
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1218
Sampled 05/27/93 @ 1613
Submitted 06/01/93
Analyzed 06/09/93

1

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	8.9
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

m 6/25/93

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20612
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1217
Sampled 05/27/93 @ 1600
Submitted 06/01/93
Analyzed 06/09/93

8

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	7.9
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	70 *
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	5.0
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

*Value derived from a 10x dilution.



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LABORATORY REPORT

m6/271

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20614
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1219
Sampled 05/27/93 @ 1615
Submitted 06/01/93
Analyzed 06/09/93

(Handwritten signature)

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	9.2
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: 93-20615
DATE: 06/24/93 jmw

WATER ANALYSIS

Livingston BN, 140101-1220
Sampled 05/27/93 @ 1628
Submitted 06/01/93
Analyzed 06/09/93

Review Metel

CONSTITUENT

ug/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	3.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	11
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	1.9
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

LABORATORY REPORT

m 6/23/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: Blank
DATE: 06/24/93 jmw

WATER ANALYSIS

Method Blank
Analyzed 06/07/93

<u>Volatile Organic Constituent</u>	<u>µg/l</u>	<u>Volatile Organic Constituent</u>	<u>µg/l</u>
Benzene	<0.50	1,3-Dichloropropane	<1.0
Bromobenzene	<1.0	2,2-Dichloropropane	<1.0
Bromochloromethane	<1.0	1,1-Dichloropropene	<1.0
Bromodichloromethane	<1.0	cis-1,3-Dichloropropene	<1.0
Bromoform	<1.0	trans-1,3-Dichloropropene	<1.0
Bromomethane	<1.0	Ethylbenzene	<1.0
Butylbenzene	<1.0	Hexachlorobutadiene	<1.0
sec-Butylbenzene	<1.0	Isopropylbenzene	<1.0
tert-Butylbenzene	<1.0	p-Isopropyltoluene	<1.0
Carbon tetrachloride	<0.50	Methylene chloride	<1.0
Chlorobenzene	<1.0	Naphthalene	<1.0
Chloroethane	<1.0	n-Propylbenzene	<1.0
Chloroform	<1.0	Styrene	<1.0
Chloromethane	<1.0	1,1,1,2-Tetrachloroethane	<1.0
2-Chlorotoluene	<1.0	1,1,2,2-Tetrachloroethane	<1.0
1-Chlorotoluene	<1.0	Tetrachloroethene	<0.50
1,2-Dibromo-3-chloropropane	<1.0	Toluene	<1.0
Dibromochloromethane	<1.0	1,2,3-Trichlorobenzene	<1.0
1,2-Dibromoethane	<1.0	1,2,4-Trichlorobenzene	<1.0
Bromomethane	<1.0	1,1,1-Trichloroethane	<0.50
1,2-Dichlorobenzene	<1.0	1,1,2-Trichloroethane	<1.0
1,3-Dichlorobenzene	<1.0	Trichloroethene	<0.50
1,4-Dichlorobenzene	<0.50	Trichlorofluoromethane	<1.0
Dichlorodifluoromethane	<1.0	1,2,3-Trichloropropane	<1.0
1,1-Dichloroethane	<1.0	1,2,4-Trimethylbenzene	<1.0
1,2-Dichloroethane	<0.50	1,3,5-Trimethylbenzene	<1.0
1,1-Dichloroethene	<0.50	Vinyl chloride	<0.50
trans-1,2-Dichloroethene	<1.0	Xylenes	<1.0
trans-1,2-Dichloroethene	<1.0		
1,2-Dichloropropane	<1.0		

REMARKS: Sample was properly preserved and in specified container. Sample was analyzed in accordance with EPA method 524.2.



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LABORATORY REPORT

m 6/25/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20591-3
DATE: 06/24/93 jmw

WATER VOLATILE SURROGATE RECOVERY

10 µg/l Surrogate Standard Spike

<u>SAMPLE NO.</u>	-----% recovery-----		
	<u>S1</u> <u>(TOL)#</u>	<u>S2</u> <u>(BFB)#</u>	<u>S3</u> <u>(DCE)#</u>
93-20591	93	100	92
93-20592	95	102	97
93-20593	95	90	81
Blank	95	95	99

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery
80-120
80-120
80-120

#Column to be used to flag recovery values with an asterisk.

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FAX (406) 252-6069 • 1-800-735-4489

in 6/25/93

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20591
DATE: 06/24/93 jmw

QUALITY ASSURANCE SPIKED ANALYSIS

Lab No. 93-20591 was spiked with the following constituents
on 06/09/93 with these results:

<u>Constituent</u>	<u>Spike Amount, µg/l</u>	<u>P (%)</u>	<u>Range for P (%)</u>
Chlorobenzene	5.0	125	60-140
1,2-Dichlorobenzene	5.0	109	60-140
cis-1,2-Dichloroethylene	5.0	117	60-140
trans-1,2-Dichloroethylene	5.0	120	60-140
1,2-Dichloropropane	5.0	124	60-140
Ethylbenzene	5.0	84	60-140
Styrene	5.0	91	60-140
Tetrachloroethylene	5.0	112	60-140
Toluene	5.0	118	60-140
o-Xylene	5.0	90	60-140
p-Xylene	5.0	110	60-140

P = Percent recovery measured.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

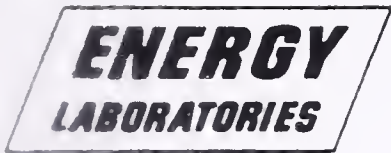
LAB NO: Blank
DATE: 06/24/93 jmw

WATER ANALYSIS

Method Blank
Analyzed 06/08/93

<u>CONSTITUENT</u>	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	<0.50
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

mw/25/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

LAB NO: Blank
DATE: 06/24/93 jmw

WATER ANALYSIS

Method Blank
Analyzed 06/09/93

CONSTITUENT	µg/l
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	< 1.0
Bromoform	< 1.0
Bromomethane	< 1.0
Carbon tetrachloride	< 0.50
Chlorobenzene	< 1.0
Chloroethane	< 1.0
2-Chloroethylvinyl ether	< 1.0
2-Chlorotoluene	< 1.0
Chloroform	< 1.0
Chloromethane	< 1.0
Dibromochloromethane	< 1.0
1,2-Dichlorobenzene	< 1.0
1,3-Dichlorobenzene	< 1.0
1,4-Dichlorobenzene	< 0.50
1,1-Dichloroethane	< 1.0
1,2-Dichloroethane	< 0.50
1,1-Dichloroethene	< 0.50
cis-1,2-Dichloroethene	< 1.0
trans-1,2-Dichloroethene	< 1.0
1,2-Dichloropropane	< 1.0
cis-1,3-Dichloropropene	< 1.0
trans-1,3-Dichloropropene	< 1.0
Methylene chloride	< 1.0
1,1,2,2-Tetrachloroethane	< 1.0
Tetrachloroethene	< 0.50
1,1,1-Trichloroethane	< 0.50
1,1,2-Trichloroethane	< 1.0
Trichloroethene	< 0.50
Trichlorofluoromethane	< 1.0
Vinyl chloride	< 0.50
Dichlorodifluoromethane	< 1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 5904

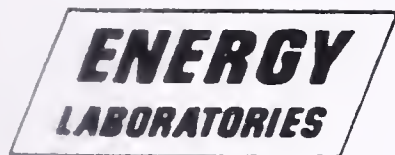
LAB NO: Blank
DATE: 06/24/93 jmw

WATER ANALYSIS

Method Blank
Analyzed 06/11/93

<u>CONSTITUENT</u>	<u>µg/l</u>
Purgeable Halocarbons (EPA Method 624)	
Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	<0.50
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

m 6/25/93

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-20594-615
DATE: 06/24/93 jmw

WATER VOLATILE SURROGATE RECOVERY

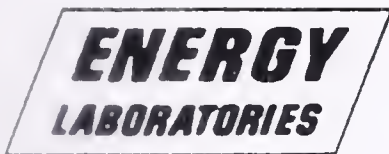
10 µg/l Surrogate Standard Spike

<u>SAMPLE NO.</u>	-----% recovery-----		
	<u>S1</u> <u>(TOL)#</u>	<u>S2</u> <u>(BFB)#</u>	<u>S3</u> <u>(DCE)#</u>
93-20594	95	103	95
Blank 06/08/93	96	99	92
93-20595	94	109	91
93-20596	95	107	93
93-20597	96	97	100
93-20598	94	94	96
93-20599	99	102	102
93-20600	96	91	102
93-20600 dup	97	113	89
Blank 06/09/93	96	105	98
Blank 06/11/93	100	91	104
93-20601	97	91	103
93-20602	99	95	98
93-20603	96	95	101
93-20604	96	95	96
93-20605	96	100	101
93-20606	94	113	99
93-20607	99	107	101
93-20608	97	95	95
93-20609	95	90	97
93-20610	97	82	98
93-20610 dup	97	88	96
93-20611	97	99	98
93-20612	95	97	99
93-20613	97	92	102
93-20614	98	98	102
93-20615	93	94	99

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery
80-120
80-120
80-120

#Column to be used to flag recovery values with an asterisk.



ENERGY LABORATORIES, INC.

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FAX (406) 252-6069 • 1-800-735-4489

m6/25/93

LABORATORY REPORT

TO: John Mills
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

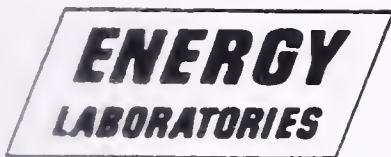
LAB NO.: 93-20611
DATE: 06/24/93 jmw

QUALITY ASSURANCE SPIKED ANALYSIS

Lab No. 93-20611 was spiked with the following constituents
on 06/14/93 with the following results:

<u>Constituent</u>	<u>Spike Amount, $\mu\text{g/l}$</u>	<u>P (%)</u>	<u>Range for P (%)</u>
Chlorobenzene	5.0	131	60-140
1,2-Dichlorobenzene	5.0	105	60-140
cis-1,2-Dichloroethylene	5.0	108	60-140
trans-1,2-Dichloroethylene	5.0	114	60-140
1,2-Dichloropropane	5.0	122	60-140
Ethylbenzene	5.0	70	60-140
Styrene	5.0	74	60-140
Tetrachloroethylene	5.0	123	60-140
Toluene	5.0	123	60-140
o-Xylene	5.0	80	60-140
p-Xylene	5.0	96	60-140

P = Percent recovery measured.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

m 4/25/93

June 24, 1993

John Mills
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On June 1, 1993 these samples, represented by our laboratory numbers 93-20591 to 93-20615 were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-24641
DATE: 06/29/93 jmw

RECEIVED
JUL 06 1993
ENVIROCON, Inc.
Livingston, Mt.

WATER ANALYSIS

Livingston/BN, 140101-1221 A,B
Sampled 06/07/93 @ 1430
Submitted 06/09/93
Analyzed 06/18/93

81-10

CONSTITUENT

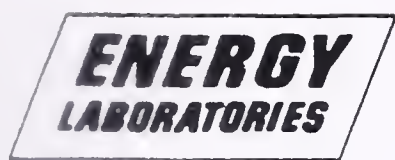
µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	21
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	73 ⁽¹⁾
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	6.6
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.

⁽¹⁾ Value derived from a 10x dilution.



ENERGY LABORATORIES, INC.

P.O. BOX 30916 • 1107 SOUTH BROADWAY • BILLINGS, MT 59107-0916 • PHONE (406) 252-6325
FAX (406) 252-6069 • 1-800-735-4489

LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: 93-24642
DATE: 06/29/93 jmw

WATER ANALYSIS

Livingston/BN, 140101-1222 A,B
Sampled 06/07/93 @ 1545
Submitted 06/09/93
Analyzed 06/18/93

42-2

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Livingston, MT

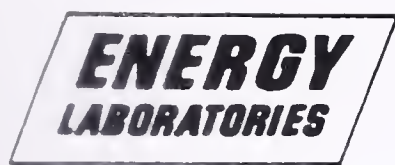
CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	0.81
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO: Blank
DATE: 06/29/93 jmw

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ENVIROCON, Inc.
Livingston, MT

WATER ANALYSIS

Method Blank
Analyzed 06/18/93

CONSTITUENT

µg/l

Purgeable Halocarbons (EPA Method 624)

Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon tetrachloride	<0.50
Chlorobenzene	<1.0
Chloroethane	<1.0
2-Chloroethylvinyl ether	<1.0
2-Chlorotoluene	<1.0
Chloroform	<1.0
Chloromethane	<1.0
Dibromochloromethane	<1.0
1,2-Dichlorobenzene	<1.0
1,3-Dichlorobenzene	<1.0
1,4-Dichlorobenzene	<0.50
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<0.50
1,1-Dichloroethene	<0.50
cis-1,2-Dichloroethene	<1.0
trans-1,2-Dichloroethene	<1.0
1,2-Dichloropropane	<1.0
cis-1,3-Dichloropropene	<1.0
trans-1,3-Dichloropropene	<1.0
Methylene chloride	<1.0
1,1,2,2-Tetrachloroethane	<1.0
Tetrachloroethene	<0.50
1,1,1-Trichloroethane	<0.50
1,1,2-Trichloroethane	<1.0
Trichloroethene	<0.50
Trichlorofluoromethane	<1.0
Vinyl chloride	<0.50
Dichlorodifluoromethane	<1.0

NOTE: This analysis is equivalent to EPA Methods 601/8010.



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LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-24641-2
DATE: 06/29/93 jmw

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Livingston, MT

WATER VOLATILE SURROGATE RECOVERY

10 µg/l Surrogate Standard Spike

<u>SAMPLE NO.</u>	-----% recovery-----		
	<u>S1</u> <u>(TOL)#</u>	<u>S2</u> <u>(BFB)#</u>	<u>S3</u> <u>(DCE)#</u>
93-24641	102	98	97
93-24642	91	109	98
Blank	99	87	98

S1 (TOL) = Toluene-d8
S2 (BFB) = Bromofluorobenzene
S3 (DCE) = 1,2-Dichloroethane-d4

QC LIMITS, % Recovery
80-120
80-120
80-120

#Column to be used to flag recovery values with an asterisk.



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LABORATORY REPORT

TO: Steve Sasse
ADDRESS: Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

LAB NO.: 93-24641
DATE: 06/29/93 jmw

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Livingston, MT

QUALITY ASSURANCE SPIKED ANALYSIS

This Quality Assurance Spiked sample was analyzed 06/21/93 with your lab no. 93-24641 with the following constituents with these results:

<u>Parameter</u>	<u>Spike Amount, $\mu\text{g/l}$</u>	<u>P (%)</u>	<u>Range for P (%)</u>
Chlorobenzene	50	101	60-140
1,2-Dichlorobenzene	50	120	60-140
cis-1,2-Dichloroethylene	50	116	60-140
trans-1,2-Dichloroethylene	50	135	60-140
1,2-Dichloropropane	50	113	60-140
Ethylbenzene	50	132	60-140
Styrene	50	118	60-140
Tetrachloroethylene	50	92	60-140
Toluene	50	112	60-140
o-xylene	50	140	60-140
p-xylene	50	118	60-140

P = Percent recovery measured.

NOTE: The sample was diluted 10x before spiking.



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m 7/6/93

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JUL 06 1993

ENVIROCON, INC.
Livingston, MT

June 29, 1993

Steve Sasse
Envirocon, Inc.
P.O. Box 1154
Livingston, MT 59047

On June 9, 1993 these samples, represented by our laboratory numbers 93-24641 to 93-24642 were submitted to our laboratory for analysis.

The test results and quality assurance were reviewed and approved by the undersigned.

Reviewed by:

